



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/083,313	02/25/2002	Sundara Murugan	P4524	5495

24739 7590 05/21/2003

CENTRAL COAST PATENT AGENCY  
PO BOX 187  
AROMAS, CA 95004

EXAMINER
----------

TSEGAYE, SABA

ART UNIT	PAPER NUMBER
----------	--------------

2662

DATE MAILED: 05/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/083,313

Applicant(s)

MURUGAN, SUNDARA

M

Examiner

Saba Tsegaye

Art Unit

2662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

Art Unit: 2662

## DETAILED ACTION

### *Drawings*

1. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Claim Objections*

2. Claim 12 is objected to because of the following informalities: the last paragraph is missing a period. Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-35 are rejected under 35 U.S.C. 102(e) as being anticipated by Simons et al. (US 6,332,198).

Regarding claims 1 and 12, Simons discloses, in Figs 1, 5, 33A, an automated-protection-switching software suite for distribution over multiple processors of a distributed processor router comprising:

Art Unit: 2662

an APS server module (14, 20, 28) running on a first one of the multiple processors (12) for managing communication and distributing configuration and state information (column 7, lines 25-41); and

APS client modules running on second ones of the multiple processors (16a-16n), the APS client modules for monitoring interface state information, reporting to the APS server application, and for negotiating with other APS client modules (column 7, lines 25-41);

characterized in that APS interface relocation from a primary interface (16a-16b) to a backup interface (16n) is performed through direct communication between the APS client modules running on the processors supporting the involved interfaces (fig 33a; column 42, lines 39-52).

Regarding claims 2, 3, 13, 27 and 28, Simons discloses the APS software suite wherein the distributed processor router is connected to and operating on a data-packet-network (column 12, lines 50-67).

Regarding claim 4, Simons discloses the APS software suite wherein the APS software suite is implemented to protect the integrity of a plurality of primary interfaces of the router by enabling backup of individual ones of the interfaces at any given time during router operation (column 39, line 43-column 40, line12; column 45, lines 56-61).

Art Unit: 2662

Regarding claims 5, 14 and 29, Simons discloses the APS software suite wherein the plurality of primary interfaces comprises an APS grouping of interfaces connected to a SONET network (column 45, line 56-column 46, line 29).

Regarding claims 6 and 20, Simons discloses the APS software suite wherein the configuration and state information generic to a primary interface for relocation is mirrored to the client supporting the backup interface for the purpose of initializing and activating the backup interface to function as the primary interface (column 27, lines 51-67).

Regarding claims 7 and 21, Simons discloses the APS software suite wherein the distributed processors communicate with each other through a network of fabric cards implemented within the router (column 48, lines 1-11; column 50, lines 62-67).

Regarding claims 8 and 22, Simons discloses the APS software suite wherein all communication exchanges between the distributed APS components follow a message sequence scheme wherein each request and response has a sequence number (column 11, lines 31-47).

Regarding claim 9, Simons discloses the APS software suite wherein interface relocation is initiated by an APS client module after detecting an event requiring relocation at the primary interface to be relocated (column 40, line 60-column 41, line 38).

Art Unit: 2662

Regarding claims 10 and 23, Simons discloses the APS software suite wherein the APS grouping of interfaces is physically supported on one processor (processor 12; column 7, lines 25-41).

Regarding claim 11, Simons discloses the APS software suite wherein the APS grouping of interfaces is distributed to and physically supported by multiple processors (processors 12, 13; column 27, lines 51-67).

Regarding claim 15, Simons discloses the distributed processor router wherein the APS software suit includes a server application, a server-client application, and a client module (column 7, lines 26-41).

Regarding claim 16, Simons discloses the distributed processor router wherein the server application runs on a control card, and the server-client application as well as the client module run on a line card (column 7, lines 26-57).

Regarding claim 17, Simons discloses the distributed processor router wherein indication of an event is an APS signal received through the target interface on the backup processor (column 35, line 58-column 36, line 27).

Regarding claim 18, Simons discloses the distributed processor router wherein the received APS signal indicates one of the failure or severe degradation of the target interface (column 35, lines 36-47; column 36, lines 28-49).

Art Unit: 2662

Regarding claim 19, Simons discloses the distributed processor router wherein the received APS signal indicates an administrative request for interface relocation (column 39, lines 10-60).

Regarding claim 24, Simons discloses a method for relocating a primary router interface to a designated backup router interface using an APS suite distributed over multiple processors of a distributed processor data router comprising steps of:

- a) mirroring current configuration and state information of the primary router interface to the processor supporting the designated backup router interface (column 27, lines 51-67);
- b) receiving indication of a requirement to initiate an APS switchover (column 35, line 58-column 36, line 49);
- c) determining if the backup router interface is available (column 35, line 58-column 36, line 49); and
- d) activating the designated backup interface using the mirrored configuration and state information (column 27, lines 51-67).

Regarding claim 25, Simons discloses the method comprising an additional step e) for reporting any changed route results to a task manager responsible for distributing updated route tables to processors (column 28, lines 1-67).

Art Unit: 2662

Regarding claim 26, Simons discloses the method comprising an additional step for updating a forwarding database according to a switchover made (column 28, lines 1-67).

Regarding claim 30, Simons discloses the method wherein in step b) the indication is received at the primary interface (column 35, line 58-column 36, line 27).

Regarding claim 31, Simons discloses the method wherein in step b) the indication is received at the backup interface (column 35, lines 36-47; column 36, lines 28-49).

Regarding claim 32, Simons discloses the method wherein in step b) the indication is of the form of an administrative request (column 39, lines 10-60).

Regarding claim 33, Simons discloses the method wherein in step c) determination of availability of the backup interface partly depends on a priority state of the interface requiring backup (column 15, line 66-column 16, line 17).

Regarding claim 34, Simons discloses the method wherein in step c) the backup interface is physically located on a processor separate from that of the primary router interface (fig. 1, 16a-16n; fig. 35, 546e).



Art Unit: 2662

Regarding claim 35, Simons discloses the method wherein in step a) the configuration and state information is selected from a table of such sets of information stored on the processor hosting the backup router interface (column 27, line 51-column 28, 65).

***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Cantwell et al. (US 6,160,806) disclose a high-density unit shelf with network interface cards and method.

Hata (US 5,712,847) discloses a line switching system for duplexed fiber interface shelf between different modes.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Saba Tsegaye whose telephone number is (703) 308-4754. The examiner can normally be reached on Monday-Friday (7:30-5:00), First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (703) 305-4744. The fax phone numbers for the organization where this application or proceeding is assigned is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.

ST  
May 16, 2003

**JOHN PEZZLO  
PRIMARY EXAMINER**

